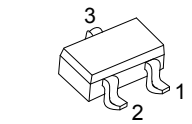
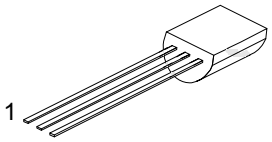
8050S

NPN SILICON TRANSISTOR

LOW VOLTAGE HIGH CURRENT SMALL SIGNAL NPN TRANSISTOR



SOT-23



TO-92

■ DESCRIPTION

The UTC **8050S** is a low voltage high current small signal NPN transistor, designed for Class B push-pull audio amplifier and general purpose applications.

■ FEATURES

*Collector current up to 700mA
*Collector-Emitter voltage up to 20V
*Complementary to UTC 8550S

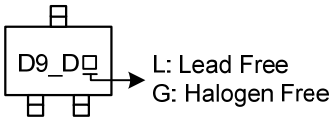
■ ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen-Free		1	2	3	
8050S-x-AE3-R	8050SL-x-AE3-R	8050SG-x-AE3-R	SOT-23	E	B	C	Tape Reel
8050S-x-T92-B	8050SL-x-T92-B	8050SG-x-T92-B	TO-92	E	C	B	Tape Box
8050S-x-T92-K	8050SL-x-T92-K	8050SG-x-T92-K	TO-92	E	C	B	Bulk

8050SL-x-AE3-R
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Free

(1) B: Tape Box, K: Bulk, R: Tape Reel
(2) AE3: SOT-23, T92: TO-92
(3) x: refer to Classification of h_{FE2}
(4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn

■ MARKING (For SOT-23 Package)



■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V_{CBO}	30	V
Collector-Emitter Voltage		V_{CEO}	20	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	700	mA
Collector Dissipation(Ta=25°C)	SOT-23	P_C	350	mW
	TO-92		1	W
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

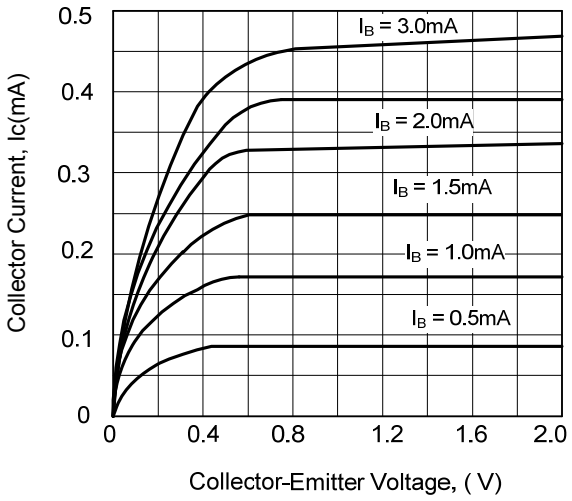
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C = 100μA, I_E = 0	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C = 1mA, I_B = 0	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E = 100μA, I_C =0	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB} = 30V,I_E = 0			1	uA
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			100	nA
DC Current Gain(note)	h_{FE1}	V_{CE} = 1V, I_C = 1mA	100		400	
	h_{FE2}	V_{CE} = 1V, I_C = 150 mA	120			
	h_{FE3}	V_{CE} = 1V, I_C = 500mA	40			
Collector-Emitter Saturation Voltage	$V_{CEO(SAT)}$	I_C = 500mA, I_B = 50mA			0.5	V
Base-Emitter Saturation Voltage	$V_{BEO(SAT)}$	I_C = 500mA, I_B = 50mA			1.2	V
Base-Emitter Saturation Voltage	$V_{BEO(SAT)}$	V_{CE} = 1V, I_C = 10mA			1.0	V
Current Gain Bandwidth Product	f_T	V_{CE} = 10V, I_C = 50mA	100			MHz
Output Capacitance	Cob	V_{CB} = 10V, I_E = 0, f = 1MHz		9.0		pF

■ CLASSIFICATION OF h_{FE2}

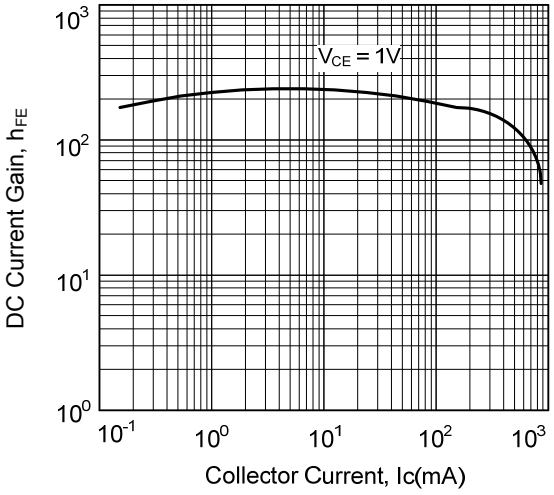
RANK	C	D	E
RANGE	120-200	160-300	280-400

■ TYPICAL CHARACTERISTICS

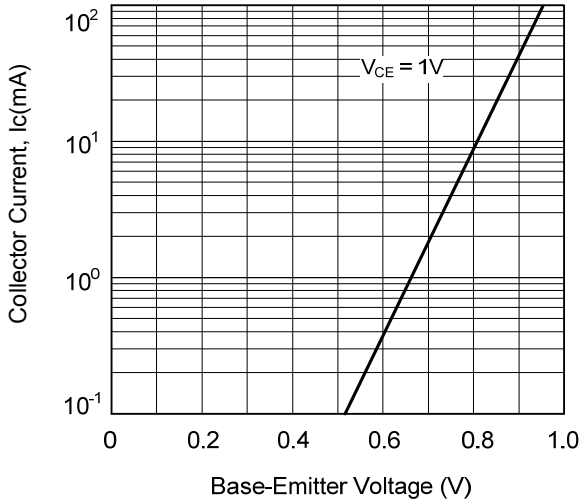
Static Characteristics



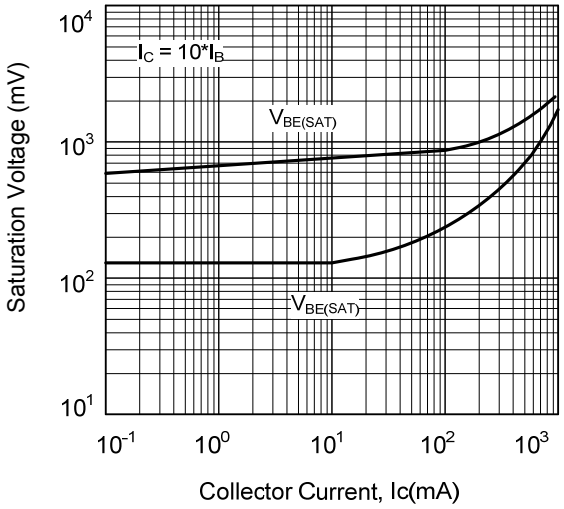
DC Current Gain



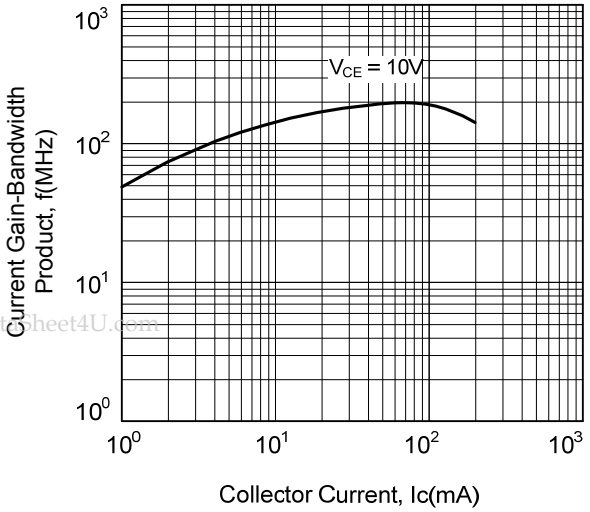
Base-Emitter on Voltage



Saturation Voltage



Current Gain-Bandwidth Product



Collector Output Capacitance